

**WE CLAIM:**

1. A communications system for use in conjunction with a telephone system connectable to a telephone network, the telephone system supporting a plurality of extension telephones connected thereto and used by a plurality of users with personal computers connected to a computer network, the system comprising:
  - a CTI (computer telephony integration) server connected to the computer network, the CTI server executing a server program that executes computer instructions for handling calls to at least selected ones of the plurality of extension telephones; and
  - a client program operably installed on the personal computers, each client program comprising means for configuring the server program to execute the computer instructions for handling calls to an extension telephone of the user.
2. The communications system as claimed in claim 1 further comprising an e-mail and contact management system connected to the network.
3. The communications system as claimed in claim 2 wherein the client program further comprises a contact management program.
4. The communications system as claimed in claim 2 wherein the server program further comprises a contact management system.

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5. The communications system as claimed in claim 1 wherein the means for configuring the server program comprises a service editor with a graphical user interface (GUI).
6. The communications system as claimed in claim 5 wherein the service editor comprises means for creating a call flow map that is used for configuring the server program.
7. The communications system as claimed in claim 6 wherein the service editor further comprises means for editing the call flow map used to configure the server program.
8. The communications system as claimed in claim 5 wherein the service editor further comprises means for saving the call flow map on the CTI server.
9. The communications system as claimed in claim 6 wherein the call flow map comprises call control elements representing predetermined call handling behavior performed by the CTI server during the handling of calls.
10. The communications system as claimed in claim 9 wherein a call flow through the call flow map is determined by connections established between call control elements of the call flow map.
11. The communications system as claimed in claim 1 wherein the server program comprises service providing application layers.

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12. The communications system as claimed in claim 11 wherein the service providing application layers comprise a service execution engine and state machine for translating a call flow map into a sequence of executable program instructions.
13. The communications system as claimed in claim 12 wherein the server program comprises call processing support systems for executing the sequence of executable program instructions.
14. The communications system as claimed in claim 13 wherein the call processing support systems comprise call, processing tools and support functions.
15. A method of permitting an individual user of an extension telephone to configure the handling of calls to the extension telephone, the extension telephone being connected to a telephone system connected to a telephone network, the method comprising steps of:
- communicatively connecting a client program operated by the individual user to a server program that executes on a computer telephony integration (CTI) server configured to receive notice of the calls to the extension telephone and to control handling of the calls;
- creating a call flow map that defines how the calls are to be handled using the client program operated by the individual user; and
- operating the client program to store the call flow map on the CTI server.

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16. The method as claimed in claim 15 further comprising a step of communicatively disconnecting the client program from the server program.
17. The method as claimed in claim 15 further comprising a step of executing the server program to activate a service defined by the call flow map to handle an call to the extension telephone.
18. In a communications system including a network; a CTI (computer telephone integration) server connected to the network; a telephone system connected to the CTI server and to a telephone network; and a plurality of extension telephones connected to the telephone system, a method for processing calls to the plurality of extension telephones, the method comprising steps of:
- receiving the call at a CTI server, which executes a predetermined service defined by a user of a destination extension telephone for the call using a client program; and
- handling the call at the CTI server in accordance with the predetermined service.
19. A method as claimed in claim 18 wherein the step of handling the call further comprises a step of:
- determining an identity of a calling party associated with the call.
20. A method as claimed in claim 19 wherein the step of handling the call further comprises a step of:
- delivering a unique message to the calling party based on the calling party's identity.

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21. A method as claimed in claim 18 wherein the step of handling the call further comprises a step of:
- accepting a voice mail message from the calling party;
- storing the voice mail message as a data file;
- attaching the data file to an electronic mail message; and
- sending the electronic mail message from the CTI server to a mailbox of the user.
22. A computer readable medium storing program instructions executable by a client computer in a server/client computing model, comprising:
- program instructions for communicatively connecting the client computer to a server program executing on a computer telephony integration (CTI) server;
- program instructions for permitting a user of an extension telephone served by a telephone system to which the CTI server is connected to create at least one call flow map for controlling calls to the extension telephone; and
- program instructions for saving call flow maps created by the user on the CTI server.
23. A computer readable medium as claimed in claim 22 wherein the program instructions for permitting the user to create at least one call flow map further comprises:
- program instructions for permitting the user to create the call flow map using predefined call

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control elements that are dragged and dropped onto a call flow map creation window.

24. A computer readable medium as claimed in claim 23 wherein the program instructions further comprise:  
program instructions for defining at least one connector pin associated with each call control element, and for displaying the at least one connector pin when the call control is dragged and dropped onto the call flow map creation window.
25. A computer readable medium as claimed in claim 24 wherein the program instructions further comprise:  
program instructions for automatically creating a connector between first and second call control elements when the second call control element is dragged and dropped on connector pin of the first call control element.
26. A computer readable medium as claimed in claim 25 wherein the program instructions further include:  
program instructions for automatically creating a connection between a connector pin and a call control element when the connector pin is dragged and dropped on the call control element.
27. A computer readable medium as claimed in claim 26 wherein the program instructions further comprise:  
program instructions for routing the automatically created connection around call control elements in the call flow map.

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28. A computer readable medium as claimed in claim 25 wherein the program instructions further comprise:
- program instructions for presenting in a single display all of the data required to configure each call control element.

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